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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Makoto NAKAMURA et al.
Title: VARIABLE-VALVE-ACTUATION APPARATUS FOR INTERNAL
COMBUSTION ENGINE
Appl. No.: 10/627,745
Filing Date: 07/28/2003
Examiner: Jamie W. Corrigan
Art Unit: 3748

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(c), before the mailing date of either a final action under 37 CFR §1.113, a notice of allowance under 37 CFR §1.311, or an action that otherwise closes prosecution in the application.

RELEVANCE OF EACH DOCUMENT

In a counterpart German application, a German Office Action issued on October 26, 2004. According to an English translation of the German Office Action obtained by Applicants' representative, the German Patent Office made certain characterizations of the references.

According to an English translation of the German Office Action, document A3 discloses in Figure 1 with the portions mentioned in the terminology of the applicant a variable-valve-actuation apparatus for an internal combustion engine with a valve, comprising:

- a control shaft 1 arranged rotatable in accordance with operating conditions of the engine;

- an alteration mechanism which changes at least an operating angle of the valve in accordance with rotation of the control shaft (column 3, lines 20 to 23); and

- a drive mechanism which rotates the control shaft, the drive mechanism comprising an electric motor and a reduction mechanism, the reduction mechanism having a reduction ratio set to be larger when the valve is under control of small operating angle when the valve is under control of large operating angle.

According to an English translation of the German Office Action, moreover, document A3 discloses with respect to the reduction mechanism:

- an output shaft linked to the motor and having at an outer periphery an engagement;

a moving member meshed with the engagement of the output shaft, the moving member moving in an axial direction of the output shaft in accordance with rotation of the output shaft;

a link member having a first end swingably linked to the moving member; and
a linkage swingably linked to a second end of the link member, the linkage rotating the control shaft by torque transmitted from the link member in accordance with axial movement of the moving member,

wherein when the valve is under control of small operating angle, and angle formed between the link member and the output shaft is increased.

As noted, the characterizations of the German Patent Office noted above are based on an English translation obtained by Applicant's representative. The disclosure of these characterizations should not be construed as an admission of or agreement with the opinions expressed in the German Office Action.

Document A4 discloses an intake valve control device of an internal combustion engine.

Document A5 discloses an adjusting unit for applying variable control to internal combustion engine valves which has a cylindrical worm drive with a screw thread and a sliding element running along the worm drive's thread and sliding on the worm drive.

Document A6 discloses a device for the introduction of a torque on a transmitting valve.

Document A7 discloses a spindle transmission for armatures, in particular, for shut-off valves.

Document A8 discloses a part-turn valve for armatures.

Document A1 claims priority based on document A3.

Documents A2 and A4 claim priority based on the same first-filed application.

English translations of the foreign-language documents are not readily available. However, English language abstracts are provided where available. Consequently, the foreign language documents have been submitted in compliance with the PTO requirements and, therefore, the document should be considered by the Examiner (37 CFR §1.97, §1.98 and MPEP §609).

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

STATEMENT

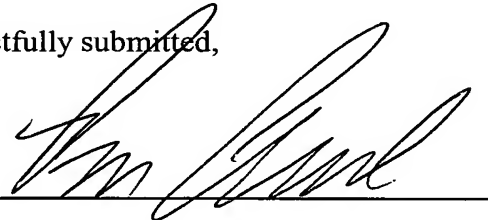
The undersigned hereby states in accordance with 37 CFR §1.97(e)(1) that each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to filing of this Statement.

The undersigned hereby states in accordance with 37 CFR §1.704(d) that each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of the information disclosure statement.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

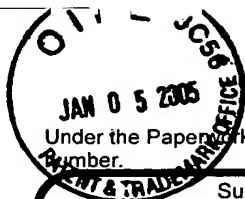
By



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MODIFIED PTO/SB/08 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: January 5, 2005 (use as many sheets as necessary)				Complete if Known	
				Application Number	10/627,745
Sheet 1 of 1				Filing Date	07/28/2003
				First Named Inventor	Makoto NAKAMURA
				Group Art Unit	3748
				Examiner Name	Jamie W. Corrigan
				Attorney Docket Number	023484-0151

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	A1	6,615,777	B2	GRAU	09-09-2003	
	A2	6,550,436	B2	NOHARA ET AL.	04-22-2003	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	A3	DE	101 20 450	A1	INA SCHAEFFLER KG	10-31-2002		Abst.
	A4	DE	101 42 257	A1	NISSAN MOTOR CO., LTD.	04-25-2002		Abst.
	A5	DE	199 05 234	A1	ROBERT BOSCH GMBH	08-17-2000		Abst.
	A6	DE	200 20 112	U1	ORTLINGHAUS GMBH	03-29-2001		
	A7	DE	25 39 510	C3	ERICH FALLERT	03-10-1977		
	A8	DD	1 18 157		ROLAND MENKE ET AL.	02-12-1976		

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶	

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.